REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 7-10 and 12-14 are presently active in this case. The present Amendment amends Claim 7; cancels Claim 5; and adds Claims 13 and 14.

The outstanding Office Action objected to the specification for not providing proper antecedent basis for the features of Claim 5. The outstanding Office Action rejected Claims 7-8, 11 and 12 under 35 U.S.C. § 103(a) as unpatentable over Carrow et al. (U.S. Patent No. 3,976,821) in view of Spencer (GB 2,288,359) as evidence from Applicant's own disclosure or Strebel (U.S. Patent No. 6,083,434). Claims 9-10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Carrow et al. in view of Spencer as evidence from Applicant's own disclosure or Strebel, further in view of Gilman, Jr. (U.S. Patent No. 4,836,963).

In response to the objection to the specification, Claim 5 is canceled.

Claim 7 is amended to correct noted informalities and to comply better with U.S. practice.

In order to vary the scope of protection recited in the claims, new dependent Claims 13 and 14 are added. New Claims 13 and 14 find non-limiting support in the disclosure as originally filed, for example at page 7, lines 3-11 with corresponding Fig. 3 and at page 6, lines 25-30. Therefore, Claims 13 and 14 are not believed to raise a question of new matter.[1]

In response to the rejection of Claims 1-4 and 6-12 under 35 U.S.C. §103(a), Applicant respectfully requests reconsideration of this rejection and traverses the rejection, as discussed next.

---

[1] See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

Briefly recapitulating, Applicant's invention, as recited in independent Claim 7, relates to a process for rotomoulding a part including at least one first layer, made of a compact polymer, and a second layer made of a foam polymer and surrounded on one face by the first layer. The claimed process includes several steps. A first quantity of material is placed in the mold to make up the first layer. The mold is rotated and the first quantity of material is heated to melt. A second quantity of material is then placed in the mold and rotation of the mold is restarted. The heating is interrupted before the second quantity of material reaches its foaming temperature, but the mold is kept rotating until the second quantity of material reaches the foaming temperature and as long as the second quantity of material remains at or above this foaming temperature, thus forming the second layer.

Claim 13 specifies a step of applying heat to the second quantity of material until the second quantity of material reaches ***a predetermined temperature above a melting temperature for the second quantity of material and below the foaming temperature***. The mold is rotated during the step of applying heat to the second quantity of material. The applying of heat to the second quantity of material is interrupted when the second quantity of material reaches the predetermined temperature below the foaming temperature. After interrupting the step of applying heat to the second quantity of material, ***the rotating of the mold is maintained while the second quantity of material continues to heat by thermal inertia and exceeds the foaming temperature such that foaming occurs in the second quantity of material during said rotating, and further maintaining the rotating while the second quantity of material cools from above the foaming temperature to below the foaming temperature***. The rotating is stopped after the second quantity of material has cooled below the foaming temperature.

Turning now to the applied prior art, Carrow discloses a rotomoulding process in which two polymer layers are successively introduced into a mould, the first (outer) layer

being heated and molten before the second layer is introduced, then the second layer is molten in a second heating step. The Office Action states that Spencer teaches to rely upon thermal inertia and to interrupt the heating of a second layer, before an operating temperature is reached. Further, the Office Action contends that overprocessing (excessively heating) a foamable polymer is known in the art in order to avoid the so-called "pop corn effect", and that it is normal to interrupt a heating as soon as possible in order to spare energy.

Applicant respectfully disagrees. Spencer does not teach to interrupt a heating of a foamable polymer layer before the foaming temperature and to rely upon the thermal inertia for achieving a controlled degree of foaming. Spencer mentions thermal inertia only before reaching an operating temperature C which appears to be a target temperature without any particular characteristic and which is therefore not related to foaming. The heating being interrupted "just before" this temperature C is reached, Spencer obviously relies upon thermal inertia only not to surpass it.

Further, Spencer is not at all concerned with foamable polymers, and never mentions them. Spencer aims at manufacturing an item like a bollard or a marker post (page10, line 25) in which the second layer is not surrounded by the first layer as claimed but at another axial section (39 in Figure 7). Obviously, foamable polymers are precluded in outer parts of such items, and Spencer merely wants to juxtapose sections having different colors but very probably a similar, non-porous material.

Further, Spencer suggests a cooling immediately after temperature C has been reached (page 9; see the steep decrease in temperature in Figure 3 too) so that no significant foaming might occur if this prior process were to be applied to a foamable polymer layer with the short time left to raise the temperature by thermal inertia after having interrupted the heating in the oven.

Finally, Spencer mentions overprocessings of the polymer only with respect to the first charge or first layer (at the top of page 8), and only to avoid a degradation thereof, so that he does not suggest to avoid overprocessing the second layer, contrary to what is asserted in the Office Action.

Spencer therefore does not fairly suggest to rely upon thermal inertia to obtain the foaming of a foamable polymer.

With respect to the "pop corn effect," Applicant respectfully submits that such an effect seems to be present in electronics, when integrated circuits are tightly enclosed in polymer housings. When die attach pads are to be soldered, this effect occurs if moisture has been trapped and evaporates so that the base of the molded plastic deforms. This is explained in US 5,449,951 for instance. See also US 6,852,427 and US 7,154,046 too. There is no evidence, however, that the "pop corn effect" is present in rotomoulding, no soldering being present and the mould being normally dry. Thus, one of ordinary skill in the art of rotomoulding would not be concerned with this effect, which is present in another technology under different conditions.

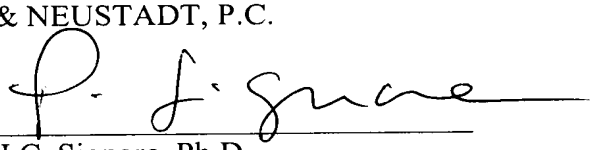
Finally, Applicant respectfully submits that the argument related to energy costs is not relevant, nor supported. The claimed method is directed to improving the foaming characteristics and not to sparing energy. Further, there is no evidence of record that a gentler but longer heating by inertia promoted in the claimed process for foaming spares energy at all since rotation and the corresponding mechanical energy is not interrupted during foaming.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 7-10 and 12-14 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Philippe J.C. Signore, Ph.D.
Attorney of Record
Registration No. 43,922

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)
GJM/PJCS:sjh